

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
BP-Husky Refinery - Removal Polrep
Initial Removal Polrep

978008



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: POLREP #1
Initial
BP-Husky Refinery

Oregon, OH
Latitude: 41.6708268 Longitude: -83.4528063

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From: Elizabeth Nightingale, OSC
Date: 9/27/2022
Reporting Period: 9/20/22- 9/27/22

1. Introduction

1.1 Background

Site Number:	Contract Number:		
D.O. Number:	Action Memo Date:		
Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	PRP	Incident Category:	Removal Action
NPL Status:	Non NPL	Operable Unit:	
Mobilization Date:	9/20/2022	Start Date:	9/20/2022
Demob Date:		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	OEPA
FPN#:		Reimbursable Account #:	

1.1.1 Incident Category

Emergency Response (CERCLA)

1.1.2 Site Description

A fire and presumed explosion occurred at the BP-Husky Toledo Refinery at approximately 1845 EDT (local) on September 20, 2022. EPA received two NRC reports from the facility that day - An earlier NRC report from the refinery, received at 3:42 PM reported that hydrogen sulfide and sulfur dioxide was releasing to the air due to a failure of a piece of refinery process equipment (exchanger) at 8:00 AM that morning , and the facility was working to repair the leak [NRC #: 1347790]. At 10:05 PM EDT the facility submitted an NRC report update stating that a fire had occurred at the facility but had been extinguished, that there were 2 injuries associated with this incident, that the refinery had been shut down, and SO₂ and H₂S continue to be released [NRC #: 1347829]. The City of Oregon (OH) Fire Department responded alongside plant personnel. EPA received a request for air monitoring support from the Oregon Fire Department.

EPA mobilized to the site to conduct assessment, air monitoring and work with the facility to ensure that runoff associated with the incident was not discharged to nearby surface waters.

Upon EPA arrival on site at around 11:30 PM EDT, EPA confirmed that the fire had been extinguished, and the plume appeared to have dissipated. The Oregon Fire Department had demobed.

Facility personnel stated that they were still investigating the cause of the fire but believed that a release of

liquid and vapor from the fuel gas mix drum ignited causing the fire, at approximately 6:30 PM.

Facility personnel indicated that Refinery operations had been shut down pending detailed facility inspection and development of a facility re-start plan. Flaring was continuing, and fire watch was ongoing. Facility staff indicated that they believed that the fire was isolated to the south area - large crude unit.

Facility staff stated that all fire-fighting and site stormwater runoff is captured in the facility drainage system that flows to the on site waste water treatment plant (WWTP) (entire facility drains to this treatment plant), but were unable to initially produce a legible copy of a drainage map for the facility so that EPA could verify this. Staff stated that the WWTP uses a 5 step treatment process - a)separation; b) air flotation; c) activated bio. sludge; d) clarifier; and e) sand filter then discharges through a cooling channel into Lake Erie.

Facility staff stated that they had conducted some on-site air monitoring for H2S (ppm), CO (ppm), O2 (%), LEL (%) and VOC (ppm) at ground level using the Refinery's standard 5-gas monitor at 8:55 PM and at 10:30 PM. Staff reported that no elevated levels were detected except for a maximum of 20 ppm CO near the Alky2 unit and a maximum of 1.4 ppm VOCs near the Alky 1 unit during the 8:55 PM monitoring round. No offsite or fenceline monitoring was conducted.

Facility staff stated that they were unsure if PFAS containing foam had been used in fire fighting operations.

1.1.2.1 Location

The BP-Husky Refinery is located at 4100 Cedar Point Road, Oregon, OH 43616. The facility is just south of the confluence of Maumee Bay (a bay within Lake Erie) and the Maumee River. Otter Creek also runs just west of the facility boundary.

The site is adjacent to an active railroad line to the west. To the east is residential housing and agricultural fields. Commercial/industrial properties are located to the south of the site.

1.1.2.2 Description of Threat

Media reports during the incident indicated that the incident produced a significant smoke plume in the vicinity of the Refinery, and facility staff indicated that flaring would need to continue for an unknown about of time. Facility staff were also unable to initially produce a legible copy of a drainage map for the facility so that EPA could verify that all runoff from the incident and fire fighting would be captured and treated by the onsite waste water treatment plant (WWTP). Therefore, potential threats to air quality and surface water were present.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results

EPA requested, obtained and shared with OEPA and local fire, an IMAAC model of the potential air release and smoke trajectory. The IMAAC model indicated potential for hazardous levels of soot within a range of approximately 500 feet to the north of the incident area, and a potential vertical soot profile of up to 1 kilometer in height that extended at that approximate elevation out about 27 kilometers, predicted to extend away from land and over Lake Erie based on near future weather predictions at the time. EPA discussed the model results with Refinery staff upon arrival on site.

EPA requested, obtained and shared with OEPA and local fire, a spot report from the National Weather Service which indicated that the intense wind and rainstorms ongoing during EPA's mobilization to the site would likely clear up after 1 AM for the evening .

EPA also completed a downstream vulnerability analysis for a 5 mile area downstream of the facility to consider potential impacts to vulnerable populations. No municipal water intakes were identified in this area. Numerous parks and marinas were identified, as well as potential for presence of several endangered bats and birds, and several potentially vulnerable populations including schools, hospitals and nursing homes that may have need further evaluation had the plume not dissipated and weather not carried it out towards Lake Erie.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative

On September 20, 2022, EPA received notification of the fire and explosion at the BP-Husky Refinery and received a request for air monitoring support from the Oregon Fire Department. EPA mobilized to the site to conduct assessment, air monitoring and work with the facility to ensure that runoff associated with the incident was not discharged to nearby surface waters.

2.1.2 Response Actions to Date

September 20, 2022 - September 21, 2022

BP-Husky Air Monitoring

Facility staff stated that they had conducted some on-site air monitoring for hydrogen sulfide (H2S) (ppm), carbon monoxide (CO) (ppm), oxygen (O2) (%), lower explosive limit (LEL) (%) and volatile organic compounds (VOCs) (ppm) at ground level using the Refinery's standard 5-gas monitor at 8:55 PM and at 10:30 PM on September 20, 2022. Staff reported that no elevated levels were detected except for a maximum of 20 ppm CO and a maximum of 1.4 ppm VOCs near the incident location during the 8:55 PM monitoring round. Staff reported repeating the on-site monitoring at 2:00 AM, 2:15 AM, and 9:35 AM with no elevated levels detected during those monitoring rounds. Staff reported that they did not conduct any offsite or property fenceline air monitoring.

EPA Air Monitoring

Facility personnel had not conducted any off-site monitoring, so after meeting with facility personnel, the EPA team established a 14 location offsite air-monitoring network outside the facility perimeter and within a neighborhood that reported odors earlier in the evening. At all 14 monitoring points, EPA used handheld Dust Traks that measure particulate matter (PM) 10 and 2.5 levels real time, RAE Systems MultiRAE Pros that measure LEL, H2S, CO, O2, and VOCs real time, and RAE Systems UltraRAE 3000s with benzene tubes that measure benzene levels down to 50 parts per billion (ppb) real time. EPA conducted 4 rounds of air monitoring at these points between approximately 1 AM and 4:15 AM on September 21, 2022. No elevated levels were detected.

BP-Husky Drainage, Outfalls and Outfall Monitoring

On September 21, 2022, EPA reiterated the request for a legible copy of the facility drainage map that depicts that all stormwater and fire fighting runoff flows to the on-site WWTP, and also requested that the facility initiate regular and frequent visual inspection of all facility outfalls to surface waters to ensure that no sheen, oil or other unusual characteristics (including unusual color, odor, foaming, debris, or other unusual characteristics) are observed in discharges, and provide EPA, OEPA and the City of Oregon with summary of findings after each survey and photos of the discharge from each outfall.

At 7:19 PM on September 21, BP-Husky provided legible facility drainage maps, and initiated inspections of Outfall 002 four times a day. The facility also initiated providing daily summaries of outfall observations to EPA, OEPA and the City of Oregon.

One of the drainage maps the facility provided showed 5 facility outfalls, in addition to Outfall 002. EPA requested more information about these other 5 outfalls and also requested the approximate transmission time for runoff to flow roughly from the incident area, to the WWTP and out to the discharge outfall.

The facility provided additional information indicating that Outfall 603 is an emergency outfall that is present in case of catastrophic flooding, has not been used for a long time, and is not in use now; that Outfalls 604, 601 and 602 are monitoring points for wastewater along the flow path to the WWTP; and that Outfall 001 is not in use. The facility also initially stated that it takes approximately 40 minutes for runoff to flow roughly from the incident area, to the WWTP and out to the discharge outfall, but later corrected that to an average of 22 hours (with a range of 19-35 hours).

September 22, 2022 - September 26, 2022

BP-Husky Outfall Monitoring

The facility continued providing daily summaries - including datasheets and photos- of outfall monitoring observations made four times a day to EPA, OEPA and the City of Oregon. No unusual characteristics of the discharge were observed over this monitoring period.

BP-Husky WWTP Status

On September 26, the facility indicated that their WWTP was down, due to an elevated pH issue, and all wastewater was being collected in on-site impoundments, pending delivery of a pH adjustment product.

September 27, 2022

BP-Husky Outfall Monitoring

On September 27, EPA advised the facility that they could reduce outfall monitoring to once daily if desired, and requested that the facility continue the outfall monitoring through the weekend to verify that nothing significantly changes in the characteristics of the discharge. The facility continued providing daily summaries - including datasheets and photos- of outfall monitoring observations to EPA, OEPA and the City of Oregon. No unusual characteristics of the discharge were observed over this monitoring period.

BP-Husky WWTP Status

On September 27, the facility indicated that their WWTP was back up and operating normally.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

The incident occurred on the BP-Husky Refinery property. EPA issued a Notice of Federal Interest to BP-Husky. The Refinery is reportedly in the process of being sold to Cenovos.

2.1.4 Progress Metrics

Waste Stream	Medium	Quantity	Manifest #	Treatment	Disposal

2.2 Planning Section

2.2.1 Anticipated Activities

The facility will continue outfall monitoring to once daily through the weekend to verify that nothing significantly changes in the characteristics of the discharge, and continue reporting to EPA, OEPA and the City of Oregon.

2.2.1.1 Planned Response Activities

2.2.1.2 Next Steps

As of September 26, 2022, BP-Husky staff report that U.S. Occupational Safety and Health Administration (OSHA) and U.S. Chemical Safety Board (CSB) investigations are ongoing the site, and there are no plans yet to re-start the refinery.

Also as of September 26, BP-Husky staff report that they do not see oil on the ground from the incident- they believe that the material that was discharged burned up.

BP-Husky will notify EPA when Refinery re-start plans have been developed. The City of Oregon and Ohio EPA plan to oversee the Refinery re-start process, and contact EPA if any further assistance is needed. EPA will continue to provide technical support, as needed.

2.2.2 Issues

2.3 Logistics Section

N/A

2.4 Finance Section

2.4.1 Narrative

An estimate of response costs is not yet available.

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	\$20,000.00	\$0.00	\$20,000.00	100.00%
Intramural Costs				
Total Site Costs	\$20,000.00	\$0.00	\$20,000.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

N/A

2.5.2 Liaison Officer

N/A

2.5.3 Information Officer

N/A

3. Participating Entities

3.1 Unified Command

Unified Command was not formally established for this response.

3.2 Cooperating Agencies

City of Oregon

Ohio Environmental Protection Agency (OEPA)

4. Personnel On Site

9/20/22- 9/21/22

USEPA - 1

START - 4

OEPA- 1

5. Definition of Terms

ATSDR	Agency for Toxic Substances and Disease Registry
BZ	Breathing Zone
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
DCE	Dichloroethylene
DNR	Department of Natural Resources
EPA	Environmental Protection Agency
ERNS	Emergency Response Notification System
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
NRC	National Response Center
ODH	Ohio Department of Health
Ohio EPA	Ohio Environmental Protection Agency
OSC	On Scene Coordinator
PPB	Parts per billion
PPM	Parts per million
RCRIS	Resource Conservation and Recovery Act Information System
RP	Responsible Party
RRT	Regional Response Team
START	Superfund Technical Assessment and Response Team
TCE	Trichloroethylene
US FWS	United States Fish and Wildlife Service
USCG	United States Coast Guard

VC Vinyl Chloride
VOC Volatile Organic Compound

6. Additional sources of information

6.1 Internet location of additional information/report
response.epa.gov/BPHusky

6.2 Reporting Schedule
TBD

7. Situational Reference Materials

Some additional reference documents are included in the documents section of this website: response.epa.gov/BPHusky



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